

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
23 October 2003 (23.10.2003)

PCT

(10) International Publication Number  
WO 03/087949 A1

(51) International Patent Classification<sup>7</sup>: G03G 9/08, 9/087

(74) Agents: PARLETT, Peter, Michael et al.; Intellectual Property Group, Avecia Limited, P.O. Box 42, Hexagon House, Blackley, Manchester M9 8ZS (GB).

(21) International Application Number: PCT/GB03/01520

(22) International Filing Date: 8 April 2003 (08.04.2003)

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
0208204.8 10 April 2002 (10.04.2002) GB  
0221090.4 11 September 2002 (11.09.2002) GB

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): AVECIA LIMITED [GB/GB]; Hexagon House, Blackley, Manchester M9 8ZS (GB).

(72) Inventors; and

Published:

(75) Inventors/Applicants (*for US only*): EDWARDS, Martin, Russell [GB/GB]; Hexagon House, P.O. Box 42, Blackley, Manchester M9 8ZS (GB). MORRIS, Daniel, Patrick [GB/GB]; Hexagon House, P.O. Box 42, Blackley, Manchester M9 8ZS (GB).

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



WO 03/087949 A1

(54) Title: CHEMICALLY PRODUCED TONER AND PROCESS THEREFOR

(57) Abstract: A toner for developing an electrostatic image comprising toner particles which include a binder resin, a wax and a colorant, wherein the wax has a melting point of between 50 and 150 °C, the wax exists in the toner particles in domains of 2 µm or less mean particle size and (a) the mean circularity of the toner particles as measured by a Flow Particle Image Analyser is at least 0.90; and (b) the shape factor, SF1, of the toner particles is at most 165. A process for the manufacture of said toner which comprises the following steps: providing a latex dispersion; providing a wax dispersion; providing a colorant dispersion; mixing the latex dispersion, wax dispersion and colorant dispersion; and causing the mixture to flocculate.